

WHAT IS CLAIMED IS:

1. A baculovirus that infects host cells without lyzing the host cells.
2. The baculovirus of claim 1, wherein the host cells are insect cells.
3. The baculovirus of claim 1, comprising an exogenous nucleic acid sequence nucleic acid sequence encoding a polypeptide.
4. The baculovirus of claim 3, wherein the polypeptide contains a fluorophore.
5. The baculovirus of claim 4, wherein the fluorophore is ECFP, EYFP, EGFP, or DsRed.
6. A method of expressing a polypeptide in a host cell, comprising infecting the host cell with a baculovirus of claim 1, wherein the baculovirus contains an exogenous nucleic acid sequence nucleic encoding the polypeptide.
7. A method for detecting protein folding, comprising:
providing a protein that contains a donor fluorophore domain and an acceptor fluorophore domain, the two fluorophore domains being disposed so that, when the protein is folded, they are in close proximity to allow resonance energy transfer therebetween; and
monitoring fluorescence emission change of the acceptor fluorophore domain upon irradiation of the donor fluorophore domain with an excitation light, the change being a function of the protein folding.
8. The method of claim 7, wherein the donor fluorophore domain is ECFP and the acceptor fluorophore domain is EYFP.

9. A method for detecting protein folding in a cell, comprising:
expressing in a cell a protein that contains a donor fluorophore and an acceptor fluorophore, the two fluorophores being disposed that, when the protein is folded, they are in close proximity to allow resonance energy transfer therebetween; and
monitoring fluorescence emission change of the acceptor fluorophore upon irradiation of the donor fluorophore with an excitation light, the change being a function of the protein folding.

10. The method of claim 9 wherein the donor fluorophore and the acceptor fluorophore are two different fluorescence protein domains.

11. The method of claim 10, wherein the donor fluorophore is ECFP and the acceptor fluorophore is EYFP.

12. The method of claim 10, wherein the cell is a bacterial, a yeast, an insect, a plant, or a mammalian cell.

13. The method of claim 12, wherein the cell is an insect cell.

14. The method of claim 9, wherein the cell is a bacterial, a yeast, an insect, a plant, or a mammalian cell.

15. The method of claim 14, wherein the cell is an insect cell.

16. A method of screening for a compound for treating a disease associated with misfolding of a protein, the method comprising:

incubating in a first medium a compound and a plurality of cells that have a protein linked to a donor fluorophore and an acceptor fluorophore, the two fluorophores being disposed so that, when the protein is folded, they are in close proximity to allow resonance energy transfer therebetween; and

determining the efficacy of the compound for treating the disease by monitoring cells emitting fluorescence from the donor or acceptor fluorophore upon irradiation of the donor fluorophore with an excitation light.

17. The method of claim 16, wherein the determining step is conducted by identifying a percentage of cells emitting the fluorescence of the acceptor fluorophore, wherein the compound is determined to be effective in treating the disease if the percentage of cells emitting fluorescence from the acceptor fluorophore is higher than that determined in the same manner on cells in a second medium, except that the second medium does not contain the compound.

18. The method of claim 17, wherein the wherein the donor fluorophore and the acceptor fluorophore are two different fluorescence protein domains.

19. The method of claim 18, wherein the donor fluorophore is ECFP and the acceptor fluorophore is EYFP.

20. The method of claim 16, wherein the determining step is conducted by identifying a percentage of cells emitting the fluorescence of the donor fluorophore, wherein the compound is determined to be effective in treating the disease if the percentage of cells emitting fluorescence from the donor fluorophore is lower than that determined in the same manner on cells in a second medium, except that the second medium does not contain the compound.

21. The method of claim 20, wherein the wherein the donor fluorophore and the acceptor fluorophore are two different fluorescence protein domains.

22. The method of claim 21, wherein the donor fluorophore is ECFP and the acceptor fluorophore is EYFP.

23. The method of claim 16, wherein the determining step is conducted by a resonance energy transfer efficiency of the cells, wherein the compound is determined to be effective in treating the disease if the resonance energy transfer efficiency is higher than that determined in the same manner on cells in a second medium, except that the second medium does not contain the compound.

24. The method of claim 23, wherein the wherein the donor fluorophore and the acceptor fluorophore are two different fluorescence protein domains.

25. The method of claim 24, wherein the donor fluorophore is ECFP and the acceptor fluorophore is EYFP.

26. The method of claim 16, wherein the wherein the donor fluorophore and the acceptor fluorophore are two different fluorescence protein domains.

27. The method of claim 26, wherein the donor fluorophore is ECFP and the acceptor fluorophore is EYFP.

28. The method of claim 16, wherein the cells are bacterial, yeast, insect, plant, or mammalian cells.

29. The method of claim 28, wherein the cells are insect cells.

30. A method of detecting a cell-lysis activity of a sample, comprising:
incubating in a first medium a sample and a plurality of cells that have a protein containing a fluorophore; and
determining a percentage of cells emitting fluorescence upon irradiation of the fluorophore with an excitation light,
wherein the sample is determined to have a cell-lysis activity if the percentage of cells emitting fluorescence is lower than that determined in the same manner on cells in a second medium, except that the second medium does not contain the sample.

31. The method of claim 30, wherein the fluorophore is ECFP, EGFP, EYFP, or DsRed.

32. A method for detecting a cell-lysis activity of a sample, comprising:
incubating in a first medium a sample and a plurality of cells that have a protein containing a donor fluorophore and an acceptor fluorophore, the two fluorophores being disposed so that, when the protein is folded, they are in close proximity to allow resonance energy transfer therebetween; and
determining the cell-lysis activity of the sample by monitoring cells emitting fluorescence from the donor or acceptor fluorophore upon irradiation of the donor fluorophore with an excitation light.

33. The method of claim 32, wherein the determining step is conducted by identifying a percentage of cells emitting the fluorescence of the acceptor fluorophore, wherein the sample is determined to have a cell-lysis activity if the percentage of cells emitting fluorescence from the acceptor fluorophore is lower than that determined in the same manner on cells in a second medium, except that the second medium does not contain the sample.

34. The method of claim 33, wherein the donor fluorophore and the acceptor fluorophore are two different fluorescence protein domains.

35. The method of claim 34, wherein the donor fluorophore is ECFP and the acceptor fluorophore is EYFP.

36. The method of claim 32, wherein the determining step is conducted by identifying a percentage of cells emitting the fluorescence of the donor fluorophore, wherein the sample is determined to have a cell-lysis activity if the percentage of cells emitting fluorescence from the donor fluorophore is higher than that determined in the same manner on cells in a second medium, except that the second medium does not contain the sample.

37. The method of claim 36, wherein the donor fluorophore and the acceptor fluorophore are two different fluorescence protein domains.

38. The method of claim 37, wherein the donor fluorophore is ECFP and the acceptor fluorophore is EYFP.

39. The method of claim 32, wherein the determining step is conducted by identifying a resonance energy transfer efficiency of the cells, wherein the sample is determined to have a cell-lysis activity if the resonance energy transfer efficiency is lower than that determined in the same manner on cells in a second medium, except that the second medium does not contain the sample.

40. The method of claim 39, wherein the donor fluorophore and the acceptor fluorophore are two different fluorescence protein domains.

41. The method of claim 40, wherein the donor fluorophore is ECFP and the acceptor fluorophore is EYFP.

42. The method of claim 32, wherein the donor fluorophore and the acceptor fluorophore are two different fluorescence protein domains.

43. The method of claim 42, wherein the donor fluorophore is ECFP and the acceptor fluorophore is EYFP.

44. The method of claim 32, wherein the cells are bacterial, yeast, insect, plant, or mammalian cells.

45. The method of claim 44, wherein the cells are insect cells.